UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/657,647 | 09/08/2003 | Dale Nelson | 25648-456701 | 2838 |

27717 7590 04/19/2005

SEYFARTH SHAW
55 EAST MONROE STREET
SUITE 4200
CHICAGO, IL 60603-5803

| EXAMINER | |
|---|---|
| NGUYEN, CAMTU TRAN | |
| **ART UNIT** | **PAPER NUMBER** |
| 3743 | |

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/657,647 | NELSON ET AL. | |
| | Examiner | Art Unit | |
| | Camtu T. Nguyen | 3743 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *03 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) *2,3 and 12* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-11 and 13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

This Office Action is in response to applicant's amendment filed on March 3, 2005. Claims 1-6 have been amended. Claims 10-13 are newly added. Claims 2, 3 and 12 have been withdrawn from consideration since they are drawn to a different embodiment.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4, 5, and 11 are ejected under 35 U.S.C. 103(a) as being unpatentable over Chia et al (U.S. Patent No. 5,913,856). Chia et al discloses in Figure 1 a catheter system comprising a shaft (1) having a distal tip section (6), distal end (2), a steering mechanism (5). Figure 2 details the distal end section (6) comprising a flexible porous shaft (21), a band electrode, and a tip electrode (11). With regards to the porous tip, as recited, Chia et al discloses in Figure 3 another embodiment comprising a tip electrode (15) with a permeable surface (column 5 lines 47-56). Therefore it would have been obvious to one skilled in the art to modify the tip electrode (1) to be permeable as such would allow fluid communication from inside the shaft over the exterior surface of the electrode to provide a fluid protective layer surrounding the electrode to minimize temperature elevation to the electrode with biological tissues. Chia et al discloses the steering

mechanism (5) at handle (4) comprises means for providing a plurality of deflectable curves on the distal tip section (6) of the catheter. With regards to claim 4, Chia et al does not disclose the steering mechanism having at least one pull wire but this type of steering mechanism is not new in art of catheter for maneuvering the catheter, in fact it is very common to use a pull wire to steer the catheter. Therefore it would have been obvious to recognize the pull wire is one of many ways to which an ordinary skill in the art would use to steer/articulate/manipulate the device.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chia et al (U.S. Patent No. 5,913,856) in view of Maguire et al (U.S. Patent No. 5,755,760). Chia et al, as presented above, discloses in Figures 1-3 a catheter system comprising elements recited in these claims but does not teach a guiding catheter, as recited. Maguire et al discloses in Figure 2 a deflectable guiding catheter (32) receiving an ablation catheter (42), the deflectable guiding catheter comprising a knob (36) by way of which deflection of the distal tip of the guide catheter (32) is accomplished by longitudinal displacement of an internal tension wire (column 4 lines 15-41). Therefore it would have been obvious to one skilled in the art to employ the Chia et al's catheter system in conjunction with Maguire et al's deflection guide catheter as such would provide directional control of the catheter and/or facilitating placement of the ablation electrode(s) at a desired location.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chia et al (U.S. Patent No. 5,913,856) in view of Maguire et al (U.S. Patent No. 5,913,854). Chia et al, as presented above, discloses in Figures 1-3 a catheter system comprising elements recited in these claims but does not teach the electrode comprises a tubular array of conductive metal strands, as

recited. Maguire et al teaches the linear ablation electrode is typically a series of circular band electrodes, one or more spiral electrodes or one or more braided electrodes, of which one or more braided electrodes inherently contains by a tubular array of conductive strands. Therefore one skilled in the art would have utilized the Maguire et al's arrangement for electrodes as such would provide a stronger conductive field.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chia et al (U.S. Patent No. 5,913,856) in view of Brucker et al (U.S. Patent No. 5,643,197). Chia et al, as presented above, discloses in Figures 1-3 a catheter system comprising elements recited in these claims but does not teach the electrode comprises a tubular array of conductive metal strands, as recited. Brucker et al discloses in Figures 1-16 an ablation catheter comprising a catheter (20), ring electrodes, and a porous tip (26). Figure 16 illustrates elongated electrodes (90) and these electrodes preferably constructed from a porous or microporous mesh (91) woven from small diameter metallic threads (column 8 lines 8-15). Therefore it would have been obvious to one or ordinary skill in the art during the time of the invention to use Brucker et al's electrodes as such would deeper linear lesions along body tissues.

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chia et al (U.S. Patent No. 5,913,856) in view of Brucker et al (U.S. Patent No. 5,643,197) and further in view of Maguire et al (U.S. Patent No. 5,755,760). Chia et al discloses in Figure 1 a catheter system comprising a shaft (1) having a distal tip section (6), distal end (2), a steering mechanism (5). Figure 2 details the distal end section (6) comprising a flexible porous shaft (21), a band electrode, and a tip electrode (11). With regards to the porous tip, as recited, Chia et al discloses in Figure 3 another embodiment comprising a tip electrode (15) with a permeable surface

(column 5 lines 47-56). The Chia et al does not teach (a) the band electrode comprising a tubular array of conductive metal strands and (b) a guiding catheter. Brucker et al discloses in Figures 1-16 an ablation catheter comprising a catheter (20), ring electrodes, and a porous tip (26). Figure 16 illustrates elongated electrodes (90) and these electrodes preferably constructed from a porous or microporous mesh (91) woven from small diameter metallic threads (column 8 lines 8-15). Therefore it would have been obvious to one or ordinary skill in the art during the time of the invention to use Brucker et al's electrodes as such would deeper linear lesions along body tissues. Maguire et al discloses in Figure 2 a deflectable guiding catheter (32) receiving an ablation catheter (42), the deflectable guiding catheter comprising a knob (36) by way of which deflection of the distal tip of the guide catheter (32) is accomplished by longitudinal displacement of an internal tension wire (column 4 lines 15-41). Therefore it would have been obvious to one skilled in the art to employ the Chia et al's catheter system in conjunction with Maguire et al's deflection guide catheter as such would provide directional control of the catheter and/or facilitating placement of the ablation electrode(s) at a desired location.

## *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Camtu T. Nguyen whose telephone number is 703-305-0537. The examiner can normally be reached on (M-F) 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry A. Bennett can be reached on 703-308-0101. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Camtu Nguyen
April 4, 2005

Henry Bennett
Supervisory Patent Examiner
Group 3700